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[57] ABSTRACT

A hybrid evaporation-extraction process for preparing microspheres of a poly(DL-lactide-to-glycolide) biodegradable polymer, comprising:

a. preparing a lyophilized biologically active material-sucrose matrix; adding acetonitrile solvent to biologically active material-sucrose matrix to form a solution;

b. preparing a solution of a biodegradable poly (DL-lactide-co-glycolide) polymer by adding acetonitrile solvent to the polymer;

c. adding the biodegradable poly (DL-lactide-co-glycolide) polymer acetonitrile solution to the biologically active material-sucrose acetonitrile solution;

d. adding with stirring an oil containing lecithin to the poly (DL-lactide-co-glycolide) polymer-sucrose-biologically active material solution to evaporate acetonitrile and form an emulsion containing microspheres of poly (DL-lactide-co-glycolide) biodegradable polymers;

e. adding the emulsion from step d. into a solvent selected from heptane, hexane, pentane or isopropanol; and

f. collecting microspheres of poly (DL-lactide-co-glycolide) biodegradable polymers of from 1.0 to about 10.0 micrometers after filtration and washing with a fresh solvent selected from heptane, hexane, pentane or isopropanol.

10 Claims, 4 Drawing Sheets